

Application No. 09/735,566
Am'ndt Dated: May 12, 2003
Reply to Office Action of February 12, 2003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Atakov, et al. Docket: 200308123-4
Application No.: Examiner: TUGBANG, Anthony D.
(Continuation of Application No.: 09/735,566
Filed: Art Unit: 3729
For: A Method of Forming Electrical Interconnects
Having Electromigration-Inhibiting Plugs (Amended)

Mail Stop Patent Application

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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 10/1/03
Date N. Rhys Merrett

INFORMATION DISCLOSURE STATEMENT

Sir:


This Information Disclosure Statement is submitted under 37 CFR 1.97(b); no fee is required.

Applicants submit herewith Form PTO-1449 – Information Disclosure Citation which applicants believe may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56. Copies of the listed information are not provided because they have been previously submitted to, or cited by, the Patent and Trade Mark Office in one or more of Application No. 08/722,532 filed September 27, 1996, Application No. 09/316,916 filed May 20, 1999, and Application No. 09/735,566 filed December 12, 2000, all relied on for an earlier effective filing date under 37 CFR 120.

It is requested that the information disclosed herein be made of record in this application.

Date: October 1, 2003
Hewlett-Packard Company
Intellectual Property Administration
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Fort Collins, CO 80528-9599

Respectfully submitted,


N. Rhys Merrett
Attorney for Applicant
Reg. No. 27,250

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200308123-4

APPLICATION NO.

CONFIRMATION NO.

APPLICANT

ATAKOV, et al

FILING DATE

10/01/2003

GROUP

3729

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	5,973,402	10/1999	Shinriki, et al	
	1B	5,889,233	03/1999	Shimeto, et al	
	1C	5,760,476	06/1998	Varker, et al	
	1D	5,745,984	05/1998	Cole, Jr., et al	
	1E	5,666,722	09/1997	Tamm, et al	
	1F	5,663,102	09/1997	Park	
	1G	5,600,884	02/1997	Kondo, et al	
	1H	5,439,731	08/1995	Lietal	
	1I	5,363,550	11/1994	Aitken, et al	
	1J	5,329,695	07/1994	Traskos, et al	
	1K	5,306,872	04/1994	Kordus, et al	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L					
	1M					
	1N					
	1O					
	1P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	1Q	"Electromigration in Thin Aluminum Films on Titanium Nitride", Journal of Applied Physics, Vol. 47, No. 4, April 1976, pp1203-1208
	1R	"An increase of the Electromigration Reliability of Ohmic Contacts by Enhancing Backflow Effect", Institute of Electrical Engineers (IEEE), 1995, Zhang, W. et al, pp365-370
	1S	"Evidence of the Electromigration Short-Length Effect in Aluminum-Based Metallurgy with Tungsten Diffusion Barriers", Mat. Res. Soc. Symp. Proc., vol309, 1993 Materials Research Society, pp. 141-149

EXAMINER

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EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	4,861,640	08/1998	Gurol	
	1B	4,296,424	10/1981	Shibasaki et al	
	1C				
	1D				
	1E				
	1F				
	1G				
	1H				
	1I				
	1J				
	1K				

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	1L					
	1M					
	1N					
	1O					
	1P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	1Q	""Permitted Electromigration of Tungsten-Plug vias in Chain for Test Structure with Short Inter-Plug Distance", T. Aoki, et al, VMIC Conference, June 7-8, 1994 ISMIC
	1R	
	1S	

EXAMINER

DATE CONSIDERED